BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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8-16-16
04:59 PM

Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering	Rulemaking 14-07-002 (Filed July 10, 2014)

EVERYDAY ENERGY REPLY COMMENTS ON PARTY PROPOSALS AND COMMENTS IN REPONSE ADMINSTRATIVE LAW JUDGE'S RULING SEEKING PROPOSALS AND COMENTS ON THE IMPLEMENTATION OF ASSEMBLY BILL 693

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August 16, 2016

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I. INTRODUCTION

Everyday Energy respectfully submits its reply comments to parties proposals and comments in response to the Administrative Law Judge's July 8, 2016 ruling. There are twenty groups and/or parties that have submitted proposals and comments. There is a stark contrast from parties with experience in the MASH Program and who were the technical experts being relied on by the legislature for technical assistance in comparison to the new parties who have no direct experience with the MASH Program. The Commission is rightfully looking at the statute and must consider the legislative analysis done for the Assembly and the Senate, while taking into consideration the answers to its questions to formulate the implementation of AB 693, the Multifamily Affordable Housing Solar Rooftops ("MAHSR" or "AB 693") program. Accordingly, it is important for the Commission to provide proper weight to those comments and proposals that are rooted in the legislative record, the plain language of the statute, hard fought and earned experience in the creation, augmentation, implementation, administration, and utilization of the MASH Program. On the other hand, it is important for the Commission to understand that all parties have a business interest in this proceeding. Whether an Investor

Owned Utility, a professional third party administrator, a group of affordable housing owners, a solar company, a solar association, a non-profit that focuses on providing financial consulting or energy efficiency consulting to affordable housing owners, environmental justice groups, or a non-profit program administrator that wears several of these hats at once, or whether or not the organization also has a strong mission-driven purpose, they are all pursuing a business goal. Whether a for-profit or a non-profit, the business interests being expressed must be rooted in the statute and the legislative analysis.

The experienced parties – namely the companies and associations whose member organizations have directly participated in the MASH program, including Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric, Center for Sustainable Energy, the MASH Coalition, CALSEIA, The Energy Freedom Coalition of America ("EFCA"), Everyday Energy, GRID Alternatives, and Vote Solar (hereinafter the "experienced parties") all understand and properly express in their comments that AB 693 was intended to use the infrastructure created by the MASH Program to implement AB 693 with a few minor qualification changes detailed in the legislation. There is no coincidence that there is unanimity with the experienced parties that AB 693 is based on the success of the current MASH Program and is meant to provide an additional direct tenant benefit. All the experienced parties have actively participated in and contributed to the success of the current MASH Program that does directly benefit tenants as a matter of fact and law. The only commenter that diverges from this understanding is the non-profit stakeholder coalition ("NSSC"), whose membership has not participated in any of the MASH proceedings and has no experience with the participation in the MASH Program. While CEJA clearly has significant experience with the definition and inclusion of disadvantaged communities in this proceeding, none of the NSSC parties has any direct experience with the MASH Program. It appears that most of their experience is rooted in federally supported energy efficiency programs targeted directly to low income renters and owners.

The Commission, in D.15-01-027 significantly improved the MASH Program by solving the split incentive issue and requiring a direct tenant benefit of at least 50%. The MASH Solar

Statistics suggest that this program has been a resounding success because the program is completely subscribed and the majority of the reserved funds are directed at providing a tenant benefit.[1] NSSC makes an unsubstantiated suggestion that the MASH Program is not a success because of the number of properties and tenant units it has reached, by misconstruing the Senate Commerce Committee testimony of Randall Simmrin of the MASH Coalition .[2] The reason for the number of buildings reached is a function of program budget not program failure. Also, many property owners will only offset common area electric load unless it is easy for them to provide a tenant benefit and it does not put their property at financial risk. There are only so many properties that can be reached with a limited budget. NSSC also incorrectly states that MASH 2.0 is a failure because the number of utility allowance adjustments processed by the California Tax Credit Allocation Committee ("TCAC").[3] This is based on hearsay and not documented anywhere. In fact, Everyday Energy is aware of 27 CUACs currently being developed. Not all of the direct tenant benefitting systems Everyday Energy has been involved with pursued a utility allowance adjustment. Moreover, the CUAC can only be used after a project has been placed in service. Many of the properties Everyday Energy is working with are in some stage of installation and several are starting to come on line as we speak. The MASH deadline for most projects is in May 2017. The actual data suggests that D.15-01-027 is a resounding success and that is why AB 693 was intended to build on this success by codifying the requirement for a primary tenant benefit.[4] Any suggestion to the contrary is misleading and must not be given any weight. As mentioned above, the overwhelming majority of commenters agree and the legislative analysis corroborates that AB 693 builds on existing MASH by providing solar incentives that primarily benefit tenants.

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[1] https://www.californiasolarstatistics.ca.gov/reports/mash_budget/
[2] NSSC Proposal at p.4
[3] See *id.*
[4] https://www.californiasolarstatistics.ca.gov/reports/mash_budget/

Finally, the Commission must recognize the fact that AB 693 funds are tied to the uncertainty of GHG Auction proceedings and that the funding source is not a constant. With this in mind the Commission should carefully consider any additional financial burden placed on the program and the Commission should leverage current programs and efficiencies to ensure that as much the AB 693 funding is spent toward providing solar PV to the primary benefit of low income renters.

II. Answers to the ALJ's Questions

Questions 1, 2, 3, and 4

There is general consensus on program eligibility and proper documentation. Additionally, there is unanimity in using the Cal Enviroscreen tool to identify Disadvantaged Communities. There is also unanimity that renters living in CCAs should be allowed to participate in AB 693.

NSSC states that master metered properties should be included as eligible recipients of AB 693 incentives.[5] They cite Everyday Energy's exparte letter from its July 7, 2016 meeting and assert that AB 693 had nothing to do with Everyday Energy's dispute with Shorebreak Energy. First, Everyday Energy has never had a dispute with Shorebreak Energy. Shorebreak Energy filed a Petition to modify D.15-01-027 based on the requirement that a deed restriction need to be in place for six months prior to applying for a MASH rebate. Everyday Energy filed comments in response to Shorebreak's motion. There was no complaint or action at the Commission or otherwise between Everyday Energy and Shorebreak. However, one need look no further than the legislative analysis for both the assembly and the senate to see that NSSC's assertions regarding master metering are based on their opinion and not on the law.[6] Both legislative analyses specifically state that master metered properties do not qualify for MAHSR

[5] NSSC Comments at p.31

[6] See Exhibit D at page I for both the Assembly and Senate Bill Analyses.

incentives.[7] The reason is clear. Specifically, master metered properties have utilities paid directly by the property owner and it is impossible to provide a direct tenant benefit when the master metered electric bill is part of the operating expense of the property and the tenant does not pay an electricity bill to the utility. That is a critical difference between MASH and MAHSR in that MASH allows for master metered properties to be incented, while MAHSR is specifically designed to benefit properties where tenants are individually metered so it is possible to ensure the tenant receives a direct benefit. While NSSC's position will certainly help the operational budget for owners and reduce their electricity expense, there is typically no utility allowance provided to tenants where electricity is provided through a landlord paid master meter. NSSC's assertions surrounding master metered properties are not based on fact or law and should be given no weight.

Question 5 and 6

AB 693 provides an easier path to qualify for a solar incentive if a property is located in a DAC. The only requirement for a property located in a DAC is that the property have a deed restriction compliant with 2852. All that requires is that 20% of the units serve residents at 80% AMI or below. On the other hand, projects located outside a DAC that pursue an AB693 incentive require multifamily properties to have a 2852 deed restriction and demonstrate that 80% of the residents are at 60% AMI or below, a much higher threshold. The IOU territories already reflect the regional diversity of the state and 693 rebates paid on a first come first served basis in the IOU territories will provide for a straightforward and easy to administer program. Properties located in DACs already get special attention because the threshold for qualification is much easier to meet, as it should be because there are more factors involved in DACs than just income alone.[8] However, there are low income residents throughout the IOU's territories and that is reflective of the state's geographic diversity and will provide sufficient incentive to reach

[7] See *Id.*

[8] GRID Comments at P.9

DACs. No parties support splitting up the 300 MW goal based on geographic diversity. The IOUs, TURN, GRID, the MASH Coalition, ORA, CALSEIA, EFCA, and Everyday Energy all oppose making allocations to two different subgroups of eligible properties.

Question 7 Incentive Structure and Levels

There is broad agreement on the approach to incentives. The experienced parties as well as others all agree on the current MASH incentive structure that provides a common area and tenant load upfront EPBB payment. The disagreement is with respect to the appropriate amount of incentives and how to account for additional sources of contributing funds such as the ITC or LIHTC. [9]

According to Section 2870(f)(4), the law requires the Commission to take into consideration the additional costs of installing solar on affordable housing as discussed in Everyday Energy's opening comments when coming up with the proper incentive levels. The reality is that not all affordable housing projects will be financially viable targets for solar PV utilizing AB 693 funds. There will be some that make sense and others that are not financially viable because of property conditions or lack of space. There will be a direct correlation between the types of properties that are served and the dollar amount of incentive levels. The lower the incentive level, the more that newer buildings with flat roofs and little to no tree issues will be targeted for installation. The Commission should strike a balance so that property owners have the ability to not adjust utility allowances at all if their gain is not enough to make the hassle of generating a California Utility Allowance Calculator (CUAC) worthwhile. On the other hand, properties on the financial margins should be allowed to adjust 25% of an available

[9] It is important that the Commission understand the types of rates most common area meters take service on so that theoretical financial analyses can be accurately tested and rebutted. As discussed in more detail below, NSSC uses a demand response rate (PGE A-10) for its baseline analysis in its Appendix E, which is not common in Everyday Energy's extensive experience. NSSC also misapplies the average rate as demonstrated in the PG&E rate summary in Exhibit A. The implications for using a baseline rate that includes a demand charge, sets the stage for the relevance of battery storage to offset demand charges and also create the false narrative about the actual operational expense gain made by the property owner because the actual common area savings are much greater than stated.

utility allowance if it makes an otherwise infeasible project financially feasible. In that case, the tenant would still receive a 75% direct tenant benefit.

2870(e) requires the Commission to take into consideration all other sources of funds when providing an AB 693 rebate. Everyday Energy provided examples of LIHTC financing and third party owned example in its comments. NSSC provided "Appendix E- INCENTIVE STRUCTURE FOR PV INSTALLATIO[N]sp" to suggest various scenarios for incentive levels. It is important to recognize as NSSC has that their modeling is theoretical. Additionally, all of their modeling is predicated on an A-10 rate in the PG&E territory as well as a value of $.80 for the LIHTC tax credit value.[10] In fact, if one looks at PG&E's commercial rate schedule, it appears that NSSC has even used the wrong average rate for A-10.[11] This is a demand response rate and the modeling does not seem to take into account the demand charges associated with consumption of common area power, which is $0.19667/kWh not $.139/kWh as modeled.[12] Additionally, this theoretical exercise fails to look at A-1 or A-6, which are the more frequently used rates that most common area service is billed at in the PG&E territory. It is possible that NSSC uses the A-10 rate in their modeling because they are aggressively advocating for the inclusion of battery storage incentives in their comments. However, based on Everyday Energy's experience, when analyzing all of the common area bills it has been involved with over the last 7 years, only about 15% of all common area service had a demand response rate.[13] This means that roughly 85% of the common area loads Everyday Energy has been involved in

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[10] LIHTC values have been around $1.05 for the last five years. It is conservative to value LIHTC at $1.00. NSSC has significantly understated the current and foreseeable future value of LIHTC by 20%. In more urban areas LIHTC credits with heavy community reinvestment demand are being sold at $1.20 per $1 of credit when the the demand for housing credit investments in markets that have the highest "CRA value," such as New York and San Francisco, outstrips their supply, investors are paying as much as $1.20 for $1 of housing credit and accepting after-tax IRR's in the 3-4% range. See https://www.cohnreznick.com/what-do-higher-lihtc-prices-mean-syndicators. Everyday Energy has also spoken to representatives from the larger banks and many are paying as much as $1.21 currently for LIHTC credits with heavy CRA credits.

[11] NSSC uses a rate of $.139/kWh, PGE's tariff provides an average rate of $.19667 for this rate. See Exhibit A

[12] See http://www.pge.com/commercialtou/ which shows the average rate for A-10 to be $.19667. NSSC uses an average rate of $.139 in their theoretical analysis.

[13] The billing data of Everyday Energy's clients is confidential information.

offsetting with solar PV are on a typical time of use rate like A-1 or A-6. [14] Even if battery storage were somehow made part of the implementation of AB 693, it would be difficult to make it cost effective without changing the NEM-MT tariffs. Currently, the use of a battery that is over 10kW is required to be separately metered and the compensation will not be at typical NEM rates. This is not taken into account with any of the theoretical modeling done by NSSC. Using the A-10 rate without considering demand charges results in an artificially low rate of $0.139 that translates to significantly understating the increase in net operating income for the owner that results in a potential windfall that an owner using low income housing tax credits could receive. Everyday Energy has used the assumptions generated by NSSC and plugged them into a LIHTC model in Exhibit B. Exhibit B also provides a model for what the appropriate level of AB 693 incentive should be when LIHTCs are being used. Using the system size and common tenant split in the NSSC Appendix and applying the appropriate PG&E rate as well as a conservative number for the value of the tax credit produces a significantly different result than what was provided in NSSC's Appendix E. The results are below in Table 1.

Table 1
Summary Results of NSSC's Appendix E with correct assumptions for PG&E tariff rate and the value of LIHTC to reflect a conservative view of the market for the last 5 years[15]

Scenario	Tenant Incentive Amount	Common Incentive Amount	% VNM Direct Tenant Benefit	% VNM Allocated to Common Area	Net Capital Surplus
A: NSSC Proposal A-10	$1.92	$1.28	100%	37%	$204,460
B: NSSC Proposal A-6	$1.92	$1.28	100%	37%	$241,690
C: Minimal Subsidy: A-6	$0.20	$-	100%	37%	$93,077
D: Unsubsidized Variation	$-	$-	10%	37%	$367,475

[14] It is important to note that once a common area meter utilizes NEM to offset its usage, that it is possible to eliminate the demand charge and change the rate to a more typical A-1 or A-6 TOU rate without the need for storage.

[15] See Exhibit B for the full detail of each scenario using proper PG&E rate structures and conservative values for tax credits of $1. "LIHTC Financial Model using NSSC's load assumptions but correcting the numbers to reflect proper rate scenarios and proper pricing for tax credits in CA with CRA component

The results demonstrate that with the proposed incentive by NSSC results in a net capital surplus to the housing owner going through a LIHTC financing at the same time they are installing solar ranging from $204,460 to $241,690 depending on the rate structure the owner is taking common area service from. The LIHTC models suggest that in a situation where an owner is going through a LIHTC financing that a $0.20 per watt incentive for tenant load is sufficient to provide enough cash to provide some additional sources of funds to incent them to act. However, the numbers also suggest that the owner may be better off if they decide to forego an AB 693 incentive altogether and monetize the net operating income they achieve from offsetting common area load and adjusting rents through the use of the CUAC and they will end up with $367,475. This suggests that properties that are undergoing a LIHTC financing at the same time they are placing solar PV on the property may not need a MAHSR incentive when all the other sources of capital are taken into account pursuant to 2870(f)(4).[16]

In a nutshell, if the incentives suggested by NSSC are used when a housing owner is also using Low Income Housing Tax Credits, the sources of funds generated by solar are significantly higher than the cost of the solar, yielding the housing owner with a financial windfall. While it is important to provide the owner with an incentive to act, it is equally important to not over incentivize so that AB 693 funds can be stretched as far as possible and hopefully surpass the 300 MW Goal. When Everyday Energy uses the LIHTC model in Exhibit B and summarized in Table 1, it uses an A-6 rate, does not adjust utility allowances, and properly recognizes all of the sources and uses of funds, it could be argued that no incentive is required to install solar. If the Commission requires that no utility allowance adjustment be allowed for a nominal rebate, it is likely that owners would opt to not receive an MAHSR rebate. The LIHTC rehabilitation market can also be an example of a market subsidized through tax credits that is not in need of additional subsidy through AB 693.

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[16] Our analysis assumes that the breakdown between common and tenant load provided by NSSC is typical. The Commission may want to test the assumption of typical common and tenant load splits in typical housing of that size.

In the TPO scenario, Everyday Energy submits that the rebate levels it suggested in its opening comments are appropriate. When compared with the rebate levels suggested by CALSEIA, The Energy Freedom Coalition, and the MASH Coalition, it appears that all of those parties agree on the appropriate levels. Because the Commission is required to consider the other sources of funding associated with AB 693 solar installations pursuant to 2870(f)(4), it is imperative that the incentive level recognize tenant and common load for TPOs and that the incentive level be reflective of all other sources of funds when the host customer owns the solar. The Commission must delicately balance the equities of providing an adequate owner incentive to act with the guarantee that low income renters directly benefit from the solar. Everyday Energy's proposal to allow for a tenant benefit that will at a minimum provide 75% of the value of the solar produced to the tenant and also allow for common area incentives provides flexibility to pursue funding gaps when necessary to make the solar PV financially viable. Everyday Energy disagrees with NSSC and GRID that common area systems can be larger if there are space constraints. In those cases, the property will simply not be eligible for AB 693 incentives or the Commission could adopt neighborhood virtual net metering or community solar specific to the VNM credits associated with affordable housing properties to provide bill credits to eligible properties with site constraining issues. Based on hard earned experience, it may not be a good use of ratepayer funds or GHG allowances to pursue solar PV on every eligible multifamily affordable housing property because it will result in the over-subsidization of common area systems and will not yield a direct tenant benefit. Unless and until the Commission provides for neighborhood virtual net metering or community solar with the retail credits provided for in the MASH VNEM tariffs, it will be impossible to provide solar PV to every eligible property.

Question 8 and 9 Battery Storage

As a practical matter storage is not a possibility for virtually net metered properties. While the IOUs take the position that battery storage is not legally permitted under AB 693 and NSSC and CSE and storage interests argue that batteries are clearly provided for in the statute, the answer is much more simple and requires less stretching of the law. As a practical matter,

batteries cannot provide generation credits for a PV system size greater than 10kW according to the NEM-MT tariff. This means that a VNEM retail credit would not apply to any storage device on a property that has storage larger than 10kW. This would be the entire universe of MASH solar projects to date. Also, as demonstrated through experience, approximately 15% of all common area systems where Everyday Energy was involved were on demand response rates. Accordingly, the urgency to offset demand response rates is not there. Finally, mandatory TOU where everyone except the IOUs acknowledge could have an adverse impact on low income renters has not occurred yet. The recommendation of CALSEIA, the Energy Freedom Association, the MASH Coalition, and Everyday Energy to table the issue of storage in the initial implementation of AB 693 and revisit in three years upon program evaluation seems to be the most prudent path forward and does not redirect scarce rebate dollars to a storage program, especially when SGIP already exists.

Question 10 Features of MASH Program

Everyday Energy, CALSEIA, PG&E, SCE, SDG&E, the MASH Coalition, and TURN agree that the balance of the MASH Program should remain intact. The aforementioned parties except for SCE agrees that the 1MW limitation of the MASH Program be lifted. PG&E further suggests that system sizing be limited to 12 months of prior load data. This is a good and prudent idea provided that PG&E and the other IOUs are committed to providing load information in an expeditious manner. Greenlining and NSSC advocate to extend the 18 month reservation period from 18 months to 36 months and GRID advocates for a change to the incentive structure, Program Administration structure, energy efficiency requirements, job training requirements, project milestones, and reservation requirements. In response to comments from Everyday Energy in 2011, the Commission implemented a reservation fee for MASH projects[17]. This was in response to parties holding a MASH reservation with no financial commitment and tying up rebate dollars for more than 18 months when extensions were factored

[17] See D.11-07-031 issued on July 14, 2011 at p. 53

in. The Commission instituted the Everyday Energy reservation fee idea and ever since, there has been a high number of MASH reservation that translate into actual solar installations. It should not and does not take a housing sponsor 18 months let alone 36 months to figure out if they want to provide solar on their housing asset. The financial decision to go solar is a relatively quick one. The issue we run into is site suitability and lender and investor approvals. That is why Everyday Energy suggested that the rules be revised to provide a transfer of a rebate outside of 180 days in the event the site is unsuitable for solar, lender and/or investor approval was not received, and non-negligible amount of money had been spent on developing the project. 36 months is too long and no meaningful solar will be installed if a housing sponsor is provided three years from the date of award to install solar PV. Everyday Energy addresses GRID's suggestions regarding energy efficiency, job training, and incentive structure in other parts of this response.

Question 12 Job Training

The Commission must balance the ambitions of parties to implement a robust local hiring requirement with the overall goal of AB 693 to provide solar to low income multi family properties. The primary and intended beneficiaries of AB 693 are low income renters. Everything else is secondary. CSE is on the right track to build on the existing job training requirements of the MASH Program, but the Commission should exercise caution in using program money to create a statewide hiring database. SDG&E, PG&E, SCE, Everyday Energy, the MASH Coalition all agree that the current MASH Program job training is sufficient. Everyday Energy, GRID and SCE agree that the training/hiring requirement should allow for flexibility in the number of people hired to meet the hourly requirement so that the work experience they receive is more meaningful. We agree with NSCC that the local hiring requirement is satisfied if the trainee is located in the same county as the 693 incentivized project.

Question 13

NSCC, GRID, MASH Coalition, PG&E, Greenlining, CALSEIA, SDG&E, TURN, ORA, SCE, and Everyday Energy all proposed a minimum allocation to tenants. All parties recognize that while AB 693 is intended to primarily benefit tenants that it must provide an incentive for owners to act. As discussed more in our answer to Question 7 above, there are various structures of solar deals that require more incentive than others. The Commission can utilize the mandate of direct tenant benefit to ensure that low income renters are receiving the bulk of the benefit by requiring MAHSR incentive recipients sign the same tenant benefit affidavit as in the MASH Program and adjust it to the required direct tenant benefit.

Question 14 Tariffs

All parties agree that the VNEM MASH Tariffs should be utilized to implement MAHSR. Additionally, it is important that the Commission take the opportunity to address the impact that mandatory time of use rates will have on low income renters. Vote Solar, the MASH Coalition, GRID, and Greenlining have all supported TOU relief for low income renters receiving VNM credits through AB 693. First, it is important to note that the solar being installed on multifamily buildings is being implemented by the landlord. While the tenants are notified about what is happening on their property, they are being signed up for virtual net metering without their consent. It is an amenity the property is providing to the tenant. Accordingly, the Commission must address the issue of imposing mandatory TOU rates on low income renters when they have not affirmatively entered into a net energy metering arrangement. Moreover, as parties have discussed, there is a very real possibility that low income renters who are high energy users at new peak times when they are not receiving net metering bill credits, it could make their energy more expensive. Therefore, the Commission should look closely at the impact mandatory TOU rates will have on low income renters and then either exempt VNEM tenants from mandatory TOU. Moreover, Vote Solar, Everyday Energy, EFCA, MASH Coalition,

NSSC, and indirectly, the ORA all support relief for low income renters from nonbypassable charges when they are receiving VNEM credits as a result of solar PV from AB 693.

Everyday Energy also agrees with the MASH Coalition that the minimum bill charges for low income renters being served by AB 693 subsidized solar PV be limited to $5 per month. We also encourage the Commission to explore neighborhood virtual net metering and community solar to reach affordable housing in complexes where sited solar PV is infeasible.

Question 15 and 16

Limits on Participation in MAHSR

CSE, SCE, PG&E, SDG&E, CALSEIA, the MASH Coalition, Everyday Energy, the EFCA, and ORA all recognize that free markets will produce the best results for MAHSR similar to what has happened with the existing MASH Program. NSSC proposes a complicated program that would require administrators to track both host customer and contractor participation and disburse incentive money accordingly. As a large part of their justification is the unfounded assertion that some solar companies and owners have tried to monopolize the MASH Program. In analyzing the actual data from the MASH Program, there is nothing factual that would suggest that any one solar contractor has a monopoly with the MASH Program. As detailed in Exhibit C[18], there are currently 22 different solar contractors serving the MASH market and none of which by definition demonstrate any monopoly power. To suggest otherwise is not supported by any facts and must not be given any weight. Moreover, the MAHSR Program is a solar program dedicated to providing a primary and direct tenant benefit. It is not in place to promote the development of additional solar contractors. However, as seen by the new interest in this proceeding compared to the implementation of MASH, more parties have become interested and as the market develops there is no doubt going to be more companies attempting to serve low-income markets and as a matter of fact, no contractor is restricted from participation.

[18] See Exhibit C List of Active Solar Contractors in MASH 2.0 according to CSI MASH Solar Statistics; see also https://www.californiasolarstatistics.ca.gov/reports/mash_budget/

Question 17 Program Administration and Design

There is no business reason to invent a new administration regime for AB 693 when the MASH Program has worked so well. The Commission explored the issue of a third party administrator in D.15-01-027 and after thoroughly vetting the issue decided to keep the current MASH administration structure intact. Section 2870(d) allows the Commission to select an electrical corporation in an existing proceeding. Specifically in findings of fact 3 and 4, the Commission found that, "3. the existing MASH Program Administrators have efficiently administered the program at a fraction of their allocated administrative budgets while fully subscribing available incentives. …and that 4. the existing MASH Program Administrators also have experience working with affordable housing developers, property owners, and customers in their assigned service territories, which will be valuable for the efficient administration of the program going forward," as a matter of fact. Findings of Law 10 and 11 go on to hold "10. Centralization of MASH Program Administration will not result in any increased efficiencies and the program will not necessarily benefit from standardization; and 11. The current MASH Program Administrators should continue in their roles through the end of the AB 217 program extension because maintaining the current program administration roles will expedite implementation of the new program under AB 217 and allow the program to continue to benefit from the experience the administrators have gained over the previous five years of the program," as a mater of law. Apart from successfully administering the current MASH Program pursuant to D.15-01-027, nothing has happened to suggest that the Commission change its findings of fact or conclusions of law. The AB 217 Program is authorized through 2020. It makes sense for the Commission to utilize its infrastructure for AB 693 as it did for AB 217. Upon the three year review of the program, the Commission could and should evaluate whether the administration of the program is being done effectively and if not, make a change when there is data to support action.

Everyday Energy had the opportunity to participate on an SB 350 panel at the California Energy Commission on August 12, 2016. The days' discussion was dedicated to low-income

programs and addressing barriers to reach low income markets. What was interesting was the consensus that federal energy efficiency programs such as ESA, LIHEAP, and others were very complex. The federal government has relied heavily on the California Department of Community Services and Development to implement federal programs. One company delivering energy efficiency services stated that for every worker in the field installing energy efficiency, it required three employees at the office to administer applications and comply with the mandates of the program.[19] This is obviously an inefficient manner to implement low-income programs. A significant distinction between the energy efficiency programs and the MASH/AB 693 Program is that the energy efficiency programs target low income renters through education and outreach to the renters directly rather than the multifamily property owners. On the other hand AB 693 directly engages the affordable housing sponsor and the tenant receives a benefit by virtue of where they live not whether they chose to participate in a federal energy efficiency program.

Everyday Energy was asked to speak about its experience with the MASH Program. In stark contrast to the other parties with experience in energy efficiency programs, we were able to report that the MASH Program works well and that low income renters are being provided with a direct benefit of solar of at least 50% of the value of the solar produced and allocated to tenants. We were also able to report that the administration and rules governing the MASH Program are clear and easy to comply with if a host customer possesses legitimate affordable housing that complies with 2852.

In noting the difference between the MASH Program and the other more complex and less successful energy efficiency programs, it highlighted the difference between those parties who want to continue the MASH Program with a few modifications and those who suggest starting new. Those that have worked within the MASH regime with major success would

[19] Testimony of Dahlia Moodie, Energy Conservation Options on Friday August 12, 2016 CEC SB 350 meeting

prefer that it continue. The current MASH Program is instructive because it has successfully incented both affordable housing owners and private markets to come together to produce solar PV that directly benefits tenants. It is difficult to reference one government mandated energy efficiency program directed to benefit low income renters that has attracted any private investment and has provided any incentive to owners to act apart from fully subsidizing an energy efficiency upgrade like new appliances or lighting. One of the main reasons MASH has been so much more successful than energy efficiency programs is because the solar benefit is worked out directly with the property owner and not the tenant. Energy efficiency programs are rooted in a paternalistic approach that has to directly outreach to tenants and single family property owners because energy efficiency is being executed within a person's home. Accordingly, the outreach component on energy efficiency programs is critical whereas in the situation where solar is being placed on a property to benefit tenants through VNEM it is not. The universe of affordable housing owners is relatively small and when you deal with one owner you have the opportunity to impact thousands of low-income renters. Accordingly, outreach, as has been proven in the MASH Program, is not a significant component of program administration.

As the majority of parties recognize, AB 693 clearly mandates that it is rooted in the MASH Program and the Commission should utilize what has already been invested in and has proven successful to carry out the mandate of the AB 693 program. The findings of fact and conclusions of law of D.15-01-027 are still pertinent and there is no reason to change those findings at this point in time.

Program Administration

As a matter of fact and as a matter of law, AB 693 is rooted in the MASH Program. Specifically, 2870 references Section 2852, which is the MASH Program. Additionally, in the bill analysis for both the California Assembly and the California Senate produced by Sue Kately of the Utility and Commerce Committee, it specifically addresses how AB 693 overlaps with

existing programs including MASH on page I of the Assembly and Senate Bill Analysis attached hereto as Exhibit D.

As stated above, all parties with experience in the MASH Program as an administrator, a host customer, an applicant, a solar provider, or a recipient of MASH incentives all agree that AB 693 should utilize the infrastructure of the current MASH Program to implement AB 693. Where the parties diverge is on administration. Of the experienced parties, the IOUs, the MASH Coalition, and Everyday Energy encourage the Commission to augment the current MASH program with specific statutory changes for eligibility and to retain the current Administration regime because it works and is compliant with Section 2870(d). As discussed in PG&E's comments, the IOUs have proven to be efficient stewards of ratepayer money in the manner they have administered the MASH Program. It is no surprise that GRID Alternatives and CSE are advocating for one statewide administrator. They are both currently program administrators and would likely want to be considered to be the single statewide administrator. While both parties do a decent job with their respective niches, there is no business reason to blow up the MASH program and start from scratch. NSSC provided the recommendation for an extremely complicated regime for statewide Administration by layering many new requirements that attempt to turn the Commission and the administrator into another affordable housing agency.[20] It would also appear that at least one of the NSSC parties would probably want to be considered as a statewide administrator, since they, like GRID are involved in administering the LIWP program.

If the Commission decided to undertake the mammoth task of starting over for AB 693 administration, it may find itself in jeopardy of missing the statutory deadline for implementation of AB 693, which is June 30, 2017 (2870(f)(1)). If the Commission's scoping memo is correct, the Proposed Decision for this proceeding may be released in October. It will require 30 days for comments and another 14 days for replies. This puts us into the Holidays before a final decision

[20] NSSC comments from page 92 to 96

can be written. Then, the Commission must draft the decision and vote on it. This may happen by the end of January 2017. Then, there would need to be public comment or workshops to develop a Request for Qualifications for third party administrators where all of the interested parties provide input on what should be part of the request for qualification. The very complex and complicated administration model proposed by the NSSC group suggests that they will demand a rigorous RFQ process as aggressively as they demanded a separate proceeding for AB 693 and demanded workshops in their motion filed in June 2016. Then, the commission would need to select an impartial third party to evaluate administration proposals. Once that is done, the Commission would need to put out an RFQ and wait for responses. Once responses are received, the Commission would then need to evaluate each response, score them, and then pick a winner. There may very well be an appeal by a party that was not selected. Assuming that an administrator was selected, it would then need to make sure that it had statewide reach, had a software program that has been approved by the Commission to administer the program, has access to proper system sizing information from the IOUs, and that the IOUs had properly funded it. Just to get to a point from the end of January to where a vendor was selected following proper protocols by June 2017 would be a heavy lift and unlikely. Once the vendor is selected, it would then need to make sure it had statewide reach, was fully funded, and that stakeholders were properly made aware of the program, that stakeholders were trained on reservation software and eligibility, and that the IOUs had transferred funds to make them available to not only operate the administration, but also pay out rebates, and also be connected to the IOUs to ensure that interconnections and customer utility information was shared with program participants. This is all required to be in place and operational as a matter of law by June 30, 2017.(See 2870(f)(1)). The Commission is not required to go through these paces as a matter of law. Instead the Commission is authorized as a matter of law to consider existing administrations in other proceedings, specifically the MASH Program.[21]

[21] Section 2870(d)

On the other hand, the Commission is legally permitted to and should allow the current administration regime to continue, at least until it is time to review the effectiveness of the Program in three years, which coincidentally coincides with the sunset of AB 217.[22] This approach is rooted in the statute in both 2870(d) and 2870(j)(2). The Commission should mandate that PowerClerk be updated with new eligibility requirements and incentive levels, and update the current MASH Handbook with the results of the AB 693 proceeding. Assuming that the PD is voted on and effective by the end of January 2017, it provides five months for the IOUs to implement the decision. This is not a heavy lift.

NSSC recommends that the LIWP Program be used as a successful model of Program Administration.[23] The LIWP Program is barely off the ground and has no track record of being successful. Everyday Energy is involved in the first two LIWP Solar installations and the reservations were granted on July 21 and July 28, 2016 respectively. There currently is not a reservation system and getting the reservations was a hassle. The reservation is just a confirmatory e-mail as CSD is still trying to approve the reservation structure. Also, the LIWP Program is set to expire on April 30, 2018. Additionally, the LIWP Program is not run by one administrator. The LIWP Program is run by AEA, CHPC, and GRID Alternatives[24]. To adopt this structure would mean rather than just dealing with the IOU, we would now be dealing with three different stakeholders in addition to the IOU to get a rebate and solar interconnection. This complicated structure is burdensome and clumsy for affordable housing owners and solar

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[22] See Id.

[23] NSSC Comments at p. 92

[24] All three administrative entities also offer business services to the multifamily owners whose LIWP rebate they are administering. For example, GRID Alternatives provides solar technical services to the property owner and then is allowed to submit a proposal to earn their business after reviewing whatever they received from another contractor. In practice GRID is able to look at any competitors bid and attempt to poke holes in it and then is able to provide a competing bid after it has reviewed the competitors bid. http://www.gridalternatives.org/programs/multifamily AEA's services can be seen at http://aea.us.org/energy-services.html. CHPC's business offerings can be seen at http://chpc.net/housing-finance-services/financial-consulting/

companies delivering the service. No party has provided any justification for placing additional and complicated layers on top of the MASH Program as a matter of fact or law.

Everyday Energy has experience with two projects that received both MASH funding and LIWP funding. Everyday Energy gathered all of the host customers data to prefect a MASH rebate, which includes utility bills, load information, as built drawings, meter numbers, VNM allocations, etc. When the LIWP program opened, it became clear that it was three headed administration model that refused to directly work with Everyday Energy to provide information it had already received. Instead, it required our clients to re-issue the same information it had already provided to Everyday Energy and the MASH Program administrator to the LIWP administrators. The way the process worked for the projects Everyday Energy was involved in was that once we filled out an interest form and it was confirmed that the project was located in an eligible DAC, the process would start. They required the affordable housing provider to be the primary point of contact for communication and data transfer and justified the requirement as an administrative outreach activity. The way it worked is there was an intake interview conducted by CHPC. This interview was not just about the subject property but included the attempt to do a full portfolio review to see where CHPC could provide its services to implement energy efficiency and finance consulting. Once through this gauntlet, the property needed to be visited by AEA and their HERS rater to do an assessment for energy efficiency that is also rebated separately through the LIWP Program. Then, the parties get back together and go over the recommendations for energy efficiency. Then, AEA or another HERS rater can be contracted to implement the rebated energy efficiency implementation. Once this is finished, then the solar PV size is scrutinized to make sure it is appropriate by GRID Alternatives. Then, the solar provider is required to provide the cost to provide solar and the sources of funds. The cost and design is reviewed by GRID Alternatives and if they deem the cost be reasonable, then a rebate may be reserved. However, GRID is allowed to provide a competing bid after it has gone through its technical review of the solar project. It is important to note that GRID also competes for multifamily solar installations and is now in a position to obtain competitive market data in a

market where it is an active participant. This process is fraught with inefficiency and administered by parties that also deliver energy efficiency services, financial consulting, and solar services to the multifamily affordable housing market for a fee.[25] [26] It is important to note that the multifamily solar market is a competitive market where MASH and NSHP funds have been combined with private investment to deliver solar to multifamily affordable housing. It is quite different than single family affordable housing and energy efficiency programs and has a much more successful track record as far as market participants and program subscription as well as attracting private markets to establish a real market that can take advantage of the scale that has been achieved in the solar business.

The only reason the properties described above went through the inefficient and cumbersome LIWP process was because they are located in a soft rental market where utility allowance could not be adjusted and the property could not otherwise afford to provide a tenant benefit. In all other cases where a MASH 1D rebate was reserved, the property owner either cross subsidized the solar for the 100% benefit of tenants or adjusted the utility allowance by 50% in compliance with the MASH rules. The LIWP solar reservation and incentive process is best analogized to timeshare vacation sales. The housing sponsor is being offered an incentive to fill a funding gap for solar on their property, but in order to receive it, they need to go through a portfolio wide analysis to see where the energy efficiency consultants can help them implement additional measures and then receive another proposal from a solar installer who is also part of the rebate process. This practice has the possibility of chilling participation.

There has been no justification as a matter of fact or law, by any party that would compel the Commission to undertake the Herculean task of blowing up the MASH infrastructure in favor

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[25] AB693 was designed to encourage tenant benefitting solar PV. It was not intended to be a funding source to three businesses to complicate the administration process.

[26] The LIWP Process has been created by stakeholders who are rooted in delivering paternalistic and complicated federal energy efficiency programs directly to low income residents. The main difference between MASH/AB693 and the federal energy efficiency programs is that the property owner is making a decision on behalf of its tenants and the tenant benefit is being regulated by the CPUC. There is no need for the paternalistic approach of energy efficiency or single family affordable solar programs because the primary participants are sophisticated owners making a financial decision that impacts their property as a whole.

of some new complicated and unproven statewide administration process set to expire on April 30, 2018 that would require workshops and public participation to design.[27] In addition to the practical reason for remaining status quo, and the fact that the current MASH administrators do not utilize their entire administration budget, PG&E raised a great point. Specifically, the IOUs are regulated by the CPUC and the CPUC can order them to act with the authority to punish if they do not. The Commission regulates the IOUs and has primary jurisdiction over them. If a statewide administrator was created, it is not regulated by the Commission and its duties would be governed by contract. To the extent there was a disagreement with respect to program administration, the remedy would be under contract law and not the administrative rules of the Commission. The bottom line is that no party has demonstrated a credible reason as to why the MASH Program is broken and requires fixing. To the contrary, all of the data suggests that the MASH Program has been a resounding success that merely has run out of money. AB 693 is meant to build on this success and provide an even deeper direct tenant benefit. The Commission has done a great job implementing the MASH Program and should build on its success by keeping the MASH infrastructure and implementation stats quo as it is legally permitted to do pursuant to Section 2870(d).

Question 22 Energy Efficiency

Section 2870(f)(7) provides that "the Commission shall establish energy efficiency requirements that are equal to the energy efficiency requirements established for the program described in Section 2852, the MASH Program. In conclusion of law 32 in D.15-01-027, the Commission required that a MASH applicant go through an ASHRAE level 1 audit. An ASHRAE Level 1 audit is what is required by AB 693.

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[27] The LIWP Solar Program provided its first reservation on July 21, 2016. It has not paid out a solar rebate to date. There is no basis to assert that it is a success at this point in time. The MASH Program has a 7 year track record and there is already familiarity with its requirements. The LIWP Program is set to expire on April 30, 2018 so it is not being set up for long term viability. AB 693 has authorized a 10 year program rooted in the constructs of the MASH Program.

CSE, GRID and NSSC suggest expanding the energy efficiency requirement, but that position is not supported by statute. It is similar to the argument for battery storage. There is no rationale that can justify the use of AB 693 funds for a new requirement not prescribed by statute. The suggestions for additional energy efficiency requirement funded by AB 693 from CSE, GRID and NSSC should be given no weight.

SCE and PG&E's Representation of the AB 693 Funding Source is Wrong

On page 3 of the Administrative Law Judge's Ruling Seeking Comment on Assembly Bill 693, ALJ Simon posited, "In view of the potential size and significance of the Multifamily Affordable Housing Solar Roofs Program, parties now have the opportunity to comment on the impact of AB 693 on the alternatives for disadvantaged communities to be considered in this proceeding." AB 693 potentially provides up to $1 Billion in solar rebates for the Multifamily Affordable Solar Roofs Program.

Public Utilities Code Section 2870 (c) states, in pertinent part:

> "The commission shall annually authorize the allocation of one hundred million dollars ($100,000,000) or 10 percent of available funds, whichever is less, from the revenues described in subdivision (c) of Section 748.5 for the Multifamily Affordable Housing Solar Roofs Program…"

The total value of allowance revenue for the three largest California investor-owned utilities (IOUs) in 2013 was $776 million.[28] Ten percent of that would be $77.6 million, less than the $100 million cap but on the same scale as that cap.

SCE and PGE claim that the Legislature only intended for 10% of that 15% portion of revenue to be used for the new program. Fifteen percent of the 2013 revenue is $116 million,

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[28] California Air Resources Board, "Cap-and-Trade Program Summary of Vintage 2013 Electrical Distribution Utility Allocated Allowance Value Reports," August 13, 2015, available at http://www.arb.ca.gov/cc/capandtrade/allowanceallocation/edu-v2013-allowance-value-report.pdf.

and 10% of that would be $11.6 million for the three IOUs. If the Legislature had envisioned a program of that size, setting a cap of $100 million would be completely out of scale.

Legislative bill analysis is also clear on this issue, stating, "This bill: 1) Requires the CPUC to authorize $100 million annually or ***10% of funds,*** whichever is less, ***from the IOUs' cap-and-trade allowance revenues*** to fund a financial assistance program for qualifying solar energy systems on low-income multifamily housing properties, as defined."[29] (emphasis added).

III. CONCLUSION

The vast majority of parties agree and the statute provides that the Commission can and should utilize the infrastructure of the current MASH Program to implement AB 693, with the statutorily required adjustments discussed in Everyday Energy's opening and reply comments. The Commission must also statutorily consider the costs of providing solar in the niche market of multifamily affordable solar housing while accounting for all additional sources of subsidy a property may receive. The multifamily affordable housing market through the MASH Program is vibrant and provides a platform for private investments to leverage public funds to the benefit of low-income renters. The Commission should fight any temptation to complicate the current regime by confusing what is needed to administer AB 693 with the much harder to administration requirements of energy efficiency programs. The current MASH administration regime works and the Commission may use it to implement AB 693 as a matter of law. In fact, the Commission should utilize it not only because it works well, but it would cost much less to implement and would ensure more of the uncertain GHG revenue dedicated to AB 693 primarily reaches low income renters. Moreover, the Commission must not be persuaded by the IOUs into improperly interpreting the statute and accounting for the funds needed to implement AB 693 in manner that would veer away from the legislative intent. Finally, the Commission should

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[29] Exhibit D. Office of Senate Floor Analyses, AB 693 Bill Analysis, September 8, 2015.

understand that it must review the progress of the AB 693 program in three years ad that provides it with the leeway to wait and see how the program is developing and make changes according to programmatic need based on a body evidence to be developed rather than making changes to the current successful MASH program for the sake of change.

Respectfully submitted this 16th day of August 2016, Carlsbad California

By: /s/ *Scott A. Sarem*
Scott A. Sarem, J.D.
Co-Founder/CEO
Everyday Energy

EXHIBIT A

Pacific Gas and Electric Company
Bundled Commercial/General Service Electric Rates
at a Glance as of August 1, 2016

Pacific Gas and Electric Company

Bundled Commercial/General Service Electric Rates at a Glance

Rates Effective:
August 1, 2016, to Present

Rate Schedule	Customer Charge	Season	Time-of-Use Period	Demand Charge (per kW)			Time-of-Use Period	Total Energy Charge (per kWh)			PDP[1/] Charges	PDP[2/] Credits DEMAND (per kW)			PDP[2/] Credits ENERGY (per kWh)			"Average" Total Rate[3/] (per kWh)
A-1	Single Phase Service per meter/day =$0.32854 Polyphase Service per meter/day =$0.65708	**Summer**		-				$0.24265			-	-			-			$0.22560
		Winter		-				$0.18767			-	-			-			
A-1 TOU	Single Phase Service per meter/day =$0.32854 Polyphase Service per meter/day =$0.65708	**Summer**		-			On peak	$0.25797			$0.60	-			($0.00915)			
							Part Peak	$0.23431							($0.00915)			
							Off Peak	$0.20696							($0.00915)			
		Winter		-			Part Peak	$0.21471				-			-			
							Off Peak	$0.19380										
A-6 TOU	Single phase service per meter/day =$0.32854; Polyphase service per meter/day =$0.65708. Plus Meter charge =$0.20107per day for A6 or A6X; =$0.05914 per day for A6W[5/]	**Summer**		-			On peak	$0.54891			$1.20	-			($0.11315)			$0.21668
							Part Peak	$0.25208							($0.02263)			
							Off Peak	$0.18049							-			
		Winter		-			Part Peak	$0.19833				-			-			
							Off Peak	$0.18009										
				Secondary	Primary	Transmission		Secondary	Primary	Transmission		Secondary	Primary	Transmission	Secondary	Primary	Transmission	
A-10 (Table A)	$4.59959 per meter per day	**Summer**		$17.83	$16.92	$11.06		$0.15983	$0.14998	$0.11603	-	-	-	-	-	-	-	$0.19667
		Winter		$10.46	$10.76	$7.74		$0.12300	$0.11931	$0.09776								
A-10 TOU (Table B)	$4.59959 per meter per day	**Summer**		$17.83	$16.92	$11.06	Peak	$0.21468	$0.20289	$0.16584	$0.90	($3.22)	($2.82)	($2.22)	($0.00479)	($0.00606)	($0.00594)	**Secondary** $0.19685
							Part-Peak	$0.15955	$0.15233	$0.11896					($0.00479)	($0.00606)	($0.00594)	
							Off-Peak	$0.13148	$0.12570	$0.09366					($0.00479)	($0.00606)	($0.00594)	**Primary** $0.17807
		Winter		$10.46	$10.76	$7.74	Part-Peak	$0.13088	$0.12898	$0.10717		-	-	-	-	-	-	
							Off-Peak	$0.11382	$0.11310	$0.09260								**Transmission** $0.14370
E-19 TOU	**Cust Chg/Meter Chg: Mandatory:** $19.71253/day for E19S; =$32.85421/day for E19P; =$59.13758/day for E19T. **Voluntary: With SmartMeter** = $4.59959/day for E19V, S, P and T. **Without SmartMeter** = $4.77700/day for E19 V or X; =$4.63507/day for E19W[4/]	**Summer**	Max. Peak	$18.74	$16.67	$12.27	Peak	$0.14726	$0.13716	$0.10134	$1.20	($5.92)	($5.46)	($5.78)	$0.00000	$0.00000	$0.00000	**Secondary** $0.16927
			Part Peak	$5.22	$4.56	$3.08	Part Peak	$0.10714	$0.09920	$0.08890		($1.46)	($1.33)	($1.45)	$0.00000	$0.00000	$0.00000	
			Maximum	$17.32	$14.05	$8.62	Off Peak	$0.08057	$0.07479	$0.07242		-	-	-	-	-	-	**Primary** $0.15593
		Winter	Part Peak	$0.13	$0.15	$0.00	Part Peak	$0.10165	$0.09407	$0.09085		-	-	-	-	-	-	
			Maximum	$17.32	$14.05	$8.62	Off Peak	$0.08717	$0.08082	$0.07820								**Transmission** $0.12628

[1/]Peak Day Pricing (PDP) (Consecutive Day and Four-Hour Event Option). All Usage During PDP Event. See specific tariff for further details.

[2/]Peak Day Pricing (PDP) (Consecutive Day and Four-Hour Event Option). See specific tariff for further details.

[3/]Average rates based on estimated forecast. Average rates provided only for general reference, and individual customer's average rate will depend on its applicable kW, kWh, and TOU data.

[4/]Effective May 1, 2006, the voluntary TOU one time reprogramming charge of $87 if there is a TOU meter already present, and one time $443 meter installation charge if there is no TOU meter, were eliminated.

[5/]The lower daily TOU meter charge continues to apply to customers who were on Rate W as of May 1, 2006. Rate X applies to all other customers.

This table provided for comparative purposes only. See current tariffs for full information regarding rates, application, eligibility, average rate limiter and additional options.

EXHIBIT B

LIHTC Financial Model
Using NSSC's load assumption but correcting
to reflect proper rate scenarios and proper price
for tax credits in CA with CRA component

Solar PV Financing: Conceptual Analysis

Direct owner purchase of solar PV system **Scenario A**

Assumptions: ***Solar for common-area & tenants***
LIHTC + ITC
NSSC's proposed incentives
100% Direct tenant benefit
See load and financial assumptions below
Using PG&E A-6 Total Average Rate

SOURCES AND USES OF CAPITAL

		% of TDC
446,216	Rebates	*53%*
120,631	ITC	*14%*
136,715	LIHTC increment	*16%*
349,217	Increased mortgage proceeds	*41%*
1,052,780	**Total Sources**	*124%*
848,320	Gross System Cost	
848,320	**Total Uses**	
204,460	**Net Capital Surplus / (Gap)**	

CALCULATIONS

72	apartment units				
265,100	System Size (Watts, DC)				
$3.20	Price per Watt				
848,320	**Gross Cost**				
383,195	kWh	Annual solar electricity production (@1456 kWh / kWp / yr.)			1.4455
	Allocation between common and tenant:				
141,782	kWh	**37%**	Common Area	**100%**	of common load offset
241,413	kWh	63%	Tenants	**79%**	of tenant load
$1.28	Rebate / W , common areas				
$1.92	Rebate / W , tenants				
446,216	Total rebates				
402,104	Net Cost (eligible basis)				
120,631	30% ITC (Sec. 48 energy credits)				
341,788	LIHTC basis (deduct 50% of ITC)				
136,715	4% LIHTC (Sec. 42 credits; typical value = 40%)				*Depreciation benes. captured in LIHTC equit*
27,884	Common area savings, @	**$0.19667**	utility price/kWh		**Current A-10 Total Average Rate**
0	Utility allowance reduction, based on direct tenant benefit of:				**100%**
(1,272)	less addt'l insurance costs	$0.15			
26,612	Total increase in NOI				
1.15	Debt Service Coverage Ratio				
23,141	Additional cash flow for debt service				
349,217	Increased mortgage proceeds, @			5.25%	loan interest rate
				30	year mortgage loan term

LOAD ASSUMPTIONS

TENANT UNITS	kWh/yr	No. units	Totals	electric UA (no PV)*
0 BR	3,000	0	0	25
1 BR	3,500	14	49,000	30
2 BR	4,200	36	151,200	35
3 BR	4,800	22	105,600	40
4 BR	5,600	0	0	45
Total tenant load:		72	305,800	
Common Area load:			141,782	

Solar PV Financing: Conceptual Analysis

Direct owner purchase of solar PV system **Scenario B**

Assumptions: ***Solar for common-area & tenants***
LIHTC
ITC
NSSC's proposed incentives
100% Direct tenant benefit
See load and financial assumptions below
Using PG&E A-6 Total Average Rate

SOURCES AND USES OF CAPITAL

		% of TDC
446,216	Rebates	*53%*
120,631	ITC	*14%*
136,715	LIHTC increment	*16%*
386,447	Increased mortgage proceeds	*46%*
1,090,010	**Total Sources**	*128%*
848,320	Gross System Cost	
848,320	**Total Uses**	
241,690	**Net Capital Surplus / (Gap)**	

CALCULATIONS

72	apartment units				
265,100	System Size (Watts, DC)				
$3.20	Price per Watt				
848,320	**Gross Cost**				
383,195	kWh	Annual solar electricity production (@1456 kWh / kWp / yr.)			1.4455
	Allocation between common and tenant:				
141,782	kWh	**37%**	Common Area	**100%**	of common load offset
241,413	kWh	63%	Tenants	**79%**	of tenant load
$1.28	Rebate / W , common areas				
$1.92	Rebate / W , tenants				
446,216	Total rebates				
402,104	Net Cost (eligible basis)				
120,631	30% ITC (Sec. 48 energy credits)				
341,788	LIHTC basis (deduct 50% of ITC)				
136,715	4% LIHTC (Sec. 42 credits; typical value = 40%)				*Depreciation benes. captured in LIHTC equity*
30,721	Common area savings, @	**$0.21668**	utility price/kWh		**Current A-6 Total Average Rate**
0	Utility allowance reduction, based on direct tenant benefit of:				**100%**
(1,272)	less addt'l insurance costs	$0.15			
29,449	Total increase in NOI				
1.15	Debt Service Coverage Ratio				
25,608	Additional cash flow for debt service				
386,447	Increased mortgage proceeds, @			5.25%	loan interest rate
				30	year mortgage loan term

LOAD ASSUMPTIONS

TENANT UNITS	kWh/yr	No. units	Totals	electric UA (no PV)*
0 BR	3,000	0	0	25
1 BR	3,500	14	49,000	30
2 BR	4,200	36	151,200	35
3 BR	4,800	22	105,600	40
4 BR	5,600	0	0	45
Total tenant load:		72	305,800	
Common Area load:			141,782	

Solar PV Financing: Conceptual Analysis

Direct owner purchase of solar PV system **Scenario C**

Assumptions: ***Solar for common-area & tenants***
LIHTC + ITC
Everyday Energy proposed incentives
Zero common-area incentives
100% Direct tenant benefit
See load and financial assumptions below

SOURCES AND USES OF CAPITAL

		% of TDC
33,403	Rebates	4%
244,475	ITC	29%
277,072	LIHTC increment	33%
386,447	Increased mortgage proceeds	46%
941,397	**Total Sources**	111%
848,320	Gross System Cost	
848,320	**Total Uses**	
93,077	**Net Capital Surplus / (Gap)**	

CALCULATIONS

72	apartment units				
265,100	System Size (Watts, DC)				
$3.20	Price per Watt				
848,320	**Gross Cost**				
383,195	kWh	Annual solar electricity production (@1456 kWh / kWp / yr.)			1.4455
	Allocation between common and tenant:				
141,782	kWh	**37%**	Common Area	**100%**	of common load offset
241,413	kWh	63%	Tenants	**79%**	of tenant load
$0.00	Rebate / W , common areas				
$0.20	Rebate / W , tenants				
33,403	Total rebates				
814,917	Net Cost (eligible basis)				
244,475	30% ITC (Sec. 48 energy credits)				
692,680	LIHTC basis (deduct 50% of ITC)				
277,072	4% LIHTC (Sec. 42 credits; typical value = 40%)				*Depreciation benes. captured in LIHTC equit*
30,721	Common area savings, @	**$0.21668**	utility price/kWh	**A-6 Average Rate**	
0	Utility allowance reduction, based on direct tenant benefit of:				**100%**
(1,272)	less addt'l insurance costs	$0.15			
29,449	Total increase in NOI				
1.15	Debt Service Coverage Ratio				
25,608	Additional cash flow for debt service				
386,447	Increased mortgage proceeds, @		5.25%	loan interest rate	
			30	year mortgage loan term	

LOAD ASSUMPTIONS

TENANT UNITS	kWh/yr	No. units	Totals	electric UA (no PV)*
0 BR	3,000	0	0	25
1 BR	3,500	14	49,000	30
2 BR	4,200	36	151,200	35
3 BR	4,800	22	105,600	40
4 BR	5,600	0	0	45
Total tenant load:		72	305,800	
Common Area load:			141,782	

Solar PV Financing: Conceptual Analysis

Direct owner purchase of solar PV system **Scenario D**

Assumptions: ***Solar for common-area & tenants***
LIHTC + ITC
Not in AB 693 Program
No incentives
10% ***Direct tenant benefit*** *(per TCAC)*

SOURCES AND USES OF CAPITAL

		% of TDC
0	Rebates	*0%*
254,496	ITC	*30%*
288,429	LIHTC increment	*34%*
672,870	Increased mortgage proceeds	*79%*
1,215,795	**Total Sources**	*143%*
848,320	Gross System Cost	
848,320	**Total Uses**	
367,475	**Net Capital Surplus / (Gap)**	

CALCULATIONS

72	apartment units				*See load and financial assumptions below*
265,100	System Size (Watts, DC)				
$3.20	Price per Watt				
848,320	**Gross Cost**				
383,195	kWh	Annual solar electricity production (@1456 kWh / kWp / yr.)			1.4455
	Allocation between common and tenant:				
141,782	kWh	**37%**	Common Area	**100%**	of common load offset
241,413	kWh	63%	Tenants	**79%**	of tenant load
$0.00	Rebate / W , common areas				
$0.00	Rebate / W , tenants				
0	Total rebates				
848,320	Net Cost (eligible basis)				
254,496	30% ITC (Sec. 48 energy credits)				
721,072	LIHTC basis (deduct 50% of ITC)				
288,429	4% LIHTC (Sec. 42 credits; typical value = 40%)				*Depreciation benes. captured in LIHTC equity*
30,721	Common area savings, @	**$0.21668**	utility price/kWh	**A-6 Average Rate**	
21,827	Utility allowance reduction, based on direct tenant benefit of:			**10%**	
(1,272)	less addt'l insurance costs	$0.15			
51,275	Total increase in NOI				
1.15	Debt Service Coverage Ratio				
44,587	Additional cash flow for debt service				
672,870	Increased mortgage proceeds, @		5.25%	loan interest rate	
			30	year mortgage loan term	

LOAD ASSUMPTIONS

TENANT UNITS	kWh/yr	No. units	Totals	electric UA (no PV)*
0 BR	3,000	0	0	25
1 BR	3,500	14	49,000	30
2 BR	4,200	36	151,200	35
3 BR	4,800	22	105,600	40
4 BR	5,600	0	0	45
Total tenant load:		72	305,800	
Common Area load:			141,782	

EXHIBIT C

List of Active Solar Contractors in MASH 2.0

According to CSI MASH Solar Statistics

MASH Statistics as of August 10, 2016

Solar Contractor Company	Count	Nameplate Rating (KW)	% of Overall Projects - KW DC
Al Fresco Concepts, Inc.	4	158	0.30%
American Solar Corporation	3	178	0.34%
Barnum & Celillo Electric Inc	1	110	0.21%
California Solar Thermal Inc	8	1,697	3.27%
California Sun Systems Inc.	1	189	0.37%
Elite Electric	2	217	0.42%
EVERYDAY COMMUNICATIONS CORP dba EVERYDAY ENERGY	69	11,783	22.73%
GRID Alternatives	5	307	0.59%
Interior Electric Incorporated	2	161	0.31%
Luminalt Energy Corporation	13	265	0.51%
Mariner Mechanical DBA Adroit Solar	1	32	0.06%
MD Energy INC	1	55	0.11%
PETERSEN-DEAN INC. dba PETERSENDEAN	6	767	1.48%
PROMISE ENERGY INC	44	4,248	8.20%
REAL GOODS ENERGY TECH INC dba REAL GOODS SOLAR	1	109	0.21%
Shorebreak Energy Developers	1	163	0.31%
Shorebreak Energy Developers LLC	41	10,175	19.63%
Siemens Industry, Inc.	6	925	1.78%
SolarCity	82	17,068	32.93%
Solar-Tec Systems	6	884	1.71%
Spectrum Energy Development Inc	1	197	0.38%
Sun Light and Power	11	534	1.03%
TBD at Proof of Project Milestone Stage	18	1,611	3.11%
TOTAL	**327**	**51,832**	**100.00%**

EXHIBIT D

Assembly and Senate AB 693 Legislative Analysis

BILL ANALYSIS

SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Ben Hueso, Chair
2015 - 2016 Regular

Bill No:	AB 693	Hearing Date:	7/13/2015
Author:	Eggman		
Version:	6/16/2015 As Amended		
Urgency:	No	Fiscal:	Yes
Consultant:	Nidia Bautista		

SUBJECT: Multifamily Affordable Housing Renewables Program

_ DIGEST: This bill would create the Multifamily Affordable Housing Renewables Program, to provide financial incentives for qualified renewable energy installations at multifamily affordable housing properties funded from investor-owned utility's greenhouse gas allowances.

ANALYSIS:

Existing law:

1) Establishes the California Public Utilities Commission (CPUC) and empowers it to regulate privately-owned public utilities in California. Specifies that the Legislature may prescribe that additional classes of private corporations or other persons are public utilities. (Article XII of the California Constitution; Public Utilities Code §301 et seq.)

2) Provides the CPUC regulatory authority over public utilities, including electrical corporations and gas corporations, as defined. Authorizes the CPUC to fix the rates and charges for every public utility, and requires that those rates and charges be just and reasonable. (Public Utilities Code §§218 and 222)

3) Requires the California Air Resources Board (ARB), pursuant to the California Global Warming Solutions Act of 2006, to adopt rules and regulations, and consider the use of market-based

compliance mechanisms, that would reduce greenhouse gas (GHG) emissions in the state to 1990 levels by 2020. (Health and Safety Code §§38500 to 38599)

4) Requires the CPUC, except as provided, to require all revenues, including accrued interest, received by an electrical corporation as a result of the direct allocation of GHG allowances to electric utilities to be credited directly to the residential, small business, and emissions-intensive trade-exposed retail customers of the electrical corporation. (Public Utilities Code §748.5)

5) Authorize the CPUC to allocate 15 percent of these revenues for clean energy and energy efficiency projects established pursuant to statute that are administered by the electrical corporation and that are not otherwise funded by another funding source. (Public Utilities Code §748.5)

6) Requires CPUC to establish a program for assistance to low-income electric and gas customers, referred to as the California Alternate Rates for Energy (CARE) program. (Public Utilities Code §739.1)

7) Creates the California Solar Initiative (CSI) with a goal to install solar energy systems with a generation capacity of 3,000 megawatts (MWs), to make solar energy systems a viable mainstream option for both homes and businesses in 10 years, and to place solar energy systems on 50 percent of new homes in 13 years. Specifies no less than 10 percent of the overall CSI funding is to be directed toward programs assisting low-income households in obtaining the benefits of solar technology. (Public Utilities Code §2852)

8) Permits the CPUC to adopt decisions that established the Single-Family Affordable Solar Homes Program (SASH) and the Multifamily Affordable Solar Housing Program (MASH), which provide monetary incentives for the installation of solar energy systems on low-income residential housing. (Public Utilities Code §2852)

9) Extends the SASH and MASH programs until December 31, 2021, or until budgeted funds are exhausted, whichever occurs sooner. (Public Utilities Code §2851)

10) Establishes the Energy Efficiency Low-Income Weatherization Program in the Department of Community Services and

Development (CSD) from the appropriation of GHG emissions reductions allowances from non-utility funds. The program provides for weatherization and renewable energy installations in disadvantaged communities defined the California Environmental Protection Agency. (Government Code §12087.5)

This bill:

1) Requires the CPUC to authorize $100 million annually from the investor-owned utilities' (IOUs) cap-and-trade allowance revenues to fund a financial assistance program for qualifying renewable energy systems on low-income multifamily properties, as defined.

2) Establishes a target of installing 300 MWs of renewable energy systems on multifamily affordable housing properties by 2030.

3) Requires that qualified multifamily affordable housing properties are a multifamily residential complex of at least five rental housing units that is low-income residential housing.

4) Requires the funding for the program to be appropriated annually beginning with the fiscal year commencing July 1, 2016 through the fiscal year commencing July 1, 2025.

5) Requires the program to be administered by a qualified third party selected by the CPUC through a competitive bidding system, with not more than 10 percent of the funds to be used for administration.

6) Requires that systems installed under the incentive program be primarily used to offset electrical usage by low-income tenants.

7) Requires that low-income customers participating in the program receive utility bill offsets through virtual net metering tariffs (VNM).

8) Requires the CPUC to submit an annual assessment of the program to the Legislature by July 30 of each year, beginning in 2018.

Background

IOUs' GHG allowance revenues. With the passage of the Global Warming Solutions Act of 2006, the ARB has implemented regulations to achieve the goal of reducing GHG emissions to 1990 levels by 2020. Under the GHG Cap-and-Trade Regulation, ARB allocates GHG emissions allowances to capped sectors, including electric IOUs. ARB requires IOUs to sell these allowances at ARB's quarterly allowance auctions, and requires that all proceeds be used for ratepayer benefit, subject to CPUC oversight.

In 2012, the Legislature adopted budget trailer language in SB 1018, which further restricted the CPUC's discretion related to the use of the funds. Specifically, SB 1018, requires that revenues from the GHG allowances be credited back to residential, small business and emissions-intensive trade-exposed businesses (businesses that are most at risk for moving their activities out of California because they aren't able to pass the costs on). Under CPUC Decision 12-12-033, the CPUC allows the three large electric utilities to allocate allowance proceeds to temporarily offset GHG costs from residential rates. As such, all remaining funds, less any proceeds used for approved clean energy and energy efficiency projects, are distributed to residential customers as the California Climate Credit. Each utility calculates the semi-annual residential California Climate Credit by dividing the total amount of revenues forecast to be available for the Climate Credit by the number of eligible households (and then dividing by two because the credit is distributed twice a year). Since residential customers are the last to be compensated, the amount of revenue they received is reduced when clean energy and energy efficiency projects are funded with these funds. Among the three largest IOUs in the state, the semi-annual climate credit is roughly $26-40 per ratepayer, depending on the utility.

By appropriating $100 million annually from the roughly $1 billion in annual allowance revenues, AB 693 will reduce the funding available, by about 10 percent, for the climate credit and other clean energy and energy efficiency projects. Currently, San Diego Gas and Electric has submitted an application to the CPUC to fund its proposed 22 year, $100 million electric vehicle charging pilot program with allowance proceeds. Additionally, individual climate credits could be reduced from nine to 20 percent, or roughly $2-6 less per $30 semi-annual credit.

Virtual Net Energy Metering (VMN). VNM is an arrangement of rates and terms that enables a multi-meter property owner to allocate a solar system's energy credits to other tenants. Historically, multi-tenant building with individual electric meters for each tenant faced difficulties installing distributed solar systems because of the problem of assigning the benefits of the generation to each occupant. A system could easily be connected to a common area load or to an individual tenant, but if it was connected directly to multiple loads, there would be no way of ensuring equitable distribution of the generation. Some tenants would benefit more than others. Installing multiple systems, one for each tenant or load in the building, is cost prohibitive. However, VNM allows participants to install a single solar system to cover the electricity load of both common and tenant areas connected at the same service delivery point. The electricity does not flow directly to any tenant meter, but rather it feeds directly back onto the grid. The participating utility then allocates the kilowatt hours from the energy produced by the solar photovoltaic generating system to both the building owner's and tenants' individual utility accounts, based on a pre-arranged allocation agreement. The intent of VNM is to help low-income multifamily residents receive direct benefits of the building's solar system, rather than all of the benefits going to the building owner.

Net Energy Metering (NEM) 2.0. The NEM program supports onsite solar installations up to 1 MW designed to offset a portion, or all, of the customer's electric load. A 2013 report by the CPUC on the costs and benefits of the NEM program suggested that NEM generation resulted in a net cost to ratepayers. However, the report also noted that the costs of NEM are largely a function of retail rates designs. With the passage of AB 327 (Perea, Chapter 611, Statutes of 2013) the CPUC is undergoing rate reform of utilities, as well as, a new proceeding to reform the NEM program with the intent to better level the playing field between participants and non-participants. By encouraging the installation of renewable energy technologies and therefore increasing the number of customers enrolled in NEM, AB 693 has the potential to impact non-participant ratepayers.

More of the same? There are existing programs that provide solar and weatherization services to low-income residents. Specifically the SASH and the MASH programs, and the Low-income Weatherization program at the CSD.

The Low-Income Weatherization program is funded from the state's Greenhouse Gas Reductions Fund (GGRF), with $25 million from the 2014-15 budget directed to renewable energy projects for low-income residents in disadvantaged communities. The budget directed $75 million to the CSD for weatherization and renewable projects working with their network of local organizations and government agencies. The Legislature has not taken action on the 2015-16 GGRF budget, however, the governor has proposed more funding for this program.

The passage of the CSI, capped program spending to reach one million solar roofs to $2.5 billion of ratepayer funds over a 10 year period for solar incentives with some funding available for projects for low-income residents. In 2007, in response to legislation, the CPUC issued a decision which established $108 million SASH incentive program for low-income homeowners. In October 2009, the CPUC established a $108 million MASH incentive program for affordable housing developments. In 2013, the Legislature extended the programs to 2021 and authorized $108 million in new funding for both programs. MASH currently has a wait list of projects and is closed to new applicants, pending approval of the updated MASH program details.

Benefitting tenants. The current programs provide the greatest incentives to property owners in order to incentivize their participation in installing a solar energy project. While those efforts are working at getting solar to more low-income residents who live in single-family homes, the proponents for AB 693 argue that tenants of affordable housing units have largely not benefitted. With the required use of VNM, AB 693 is intended to help tenants realize the benefits of renewable energy installations. AB 693 proposes to use many of the MASH elements, including utilizing VNM to provide tenants with financial incentives on their utilities bills. The MASH program provides for two approaches with VNM, one for individual metered properties where each rental property has its own meter and one for master-metered, such as mobile home parks. Unlike MASH, AB 693 would make the affordable housing installs exclusively

available to individual metered properties.

Administration. AB 693 requires the use of a third-party administrator to implement the program. The utilities have raised concerns with this approach, stating that they can provide the service more cost-effectively and with greater

knowledge of their respective customers. However, the author and sponsors have raised concerns with having the utilities administer a statewide program and their belief that a third-party administrator will be more cost-effective and effective.

A 10-year commitment. AB 693 commits $1 billion in funding over 10 years, regardless if the program was working or not. As this bill's approach to more directly benefit tenants is new, it is warranted that the program be assessed and adjusted sooner. The author and committee may wish to amend this bill to provide for a more near-term review and assessment by the CPUC to provide for adjustments, as needed.

In order to clarify low-income eligibility, the author and committee may wish to amend this bill to clarify the low-income definition for eligibility and remove reference to the CARE program where it is not needed.

Prior/Related Legislation

SB 862 (Chapter 36, Statutes of 2014) Committee on Budget: GHG emission reduction. Appropriates funding from the sale of GHG emissions allowances, including establishing a low-income weatherization and renewable energy program at the CSD.

AB 217 (Bradford/De León, Chapter 609, Statutes of 2013) extended the low-income programs of the CSI from 2016 until 2021, authorizes the collection of an additional $108 million for these programs, and adds additional standards to the program, as specified.

SB 1 (Murray, Chapter 132, Statutes of 2006) established the electric portion of the CSI with a 10-year budget of $2.2 billion collected from ratepayers.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: Yes

ASSEMBLY VOTES:

Assembly Floor (79-0)
Assembly Business and Professions Committee (14-0)

SUPPORT:

California Solar Energy Industries Association (source)
Justice Alliance (source)
California's Multifamily Affordable Solar Homes Coalition
Center Coast Alliance United for a Sustainable Economy
Center for Community Action and Environmental Justice
Center on Race, Poverty & the Environment
Communities for a Better Environment
Community Advancement
Environment California
Everyday Energy
Pacoima Beautiful
SolarCity
Union of Concerned Scientists
Vote Solar

OPPOSITION:

CalTax

ARGUMENTS IN SUPPORT: According to the sponsors, the program goal is to create a million solar renters and provide direct economic benefits to tenants. Low-income renters have largely been bypassed by the growth of solar in California's residential markets because of split incentive barriers. Solar CARE will demonstrate that solar investments to underserved low-income markets can be made while providing an equivalent ratepayer benefit through reductions in CARE outlays.

ARGUMENTS IN OPPOSITION: CalTax states it is opposed to this bill because "it distorts the nature of a regulatory fee." CalTax further states: "Pending litigation will determine if the auction component of the cap-and-trade program constitutes an illegal tax."

-- END --

BILL ANALYSIS

AB 693

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CONCURRENCE IN SENATE AMENDMENTS

AB
693 (Eggman and Williams)

As Amended September 4, 2015

Majority vote

ASSEMBLY:		(May 11, 2015)	SENATE:	26-14	(September 10, 2015)

(vote not relevant)

Original Committee Reference: B. & P.

SUMMARY: This bill creates a Multifamily Affordable Housing Solar Roofs Program to provide financial incentives for qualified solar installations at multifamily affordable housing properties funded from investor-owned utility's (IOUs) greenhouse gas (GHG) allowances.

The Senate amendments:

a) Creates a program to provide monetary assistance of qualifying solar energy systems that are installed on qualified

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multifamily affordable housing properties.

b) Allocates up to $100 million or 10% of available funding from utility GHG allowances that are reserved for clean energy and energy efficiency projects.

c) Restricts the program to just solar energy systems.

d) Continues funding for the program after 2020 to 2026 only to the extent that there is adequate interest and participation, and there are unallocated revenues available.

e) Specifies that all funds allocated to the program that remain uncommitted after three years be credited to the ratepayers and to clarify that tenants are beneficiaries but not the program participants.

f) Clarifying and technical changes.

EXISTING LAW:

1) Provides the California Public Utilities Commission (CPUC) regulatory authority over public utilities, including electrical corporations and gas corporations, as defined. Authorizes the CPUC to fix the rates and charges for every public utility, and requires that those rates and charges be just and reasonable. (Public Utilities Code Sections 218 and 222)

2) Requires the California Air Resources Board (ARB), pursuant to the California Global Warming Solutions Act of 2006, to

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adopt rules and regulations, and consider the use of market-based compliance mechanisms that would reduce GHG emissions in the state to 1990 levels by 2020. (Health and Safety Code Sections 38500 to 38599)

3) Requires the CPUC, except as provided, to require all revenues, including accrued interest, received by an electrical corporation as a result of the direct allocation of GHG allowances to electric utilities to be credited directly to the residential, small business, and emissions-intensive trade-exposed retail customers of the electrical corporation. (Public Utilities Code Section 748.5)

4) Authorizes the CPUC to allocate 15% of these revenues for clean energy and energy efficiency projects established pursuant to statute that are administered by the electrical corporation and that are not otherwise funded by another funding source. (Public Utilities Code Section 748.5)

5) Requires the CPUC to establish a program for assistance to low-income electric and gas customers, referred to as the California Alternate Rates for Energy (CARE) program. (Public Utilities Code Section 739.1)

6) Establishes a program called Net Energy Metering (NEM) that allows bill credits at the hourly retail electricity rate, for energy not consumed on site for customers who self-generate electricity from specified renewable energy technologies, to be applied against both the generation and non-generation charges on the customer's bill. The IOUs are not required to offer NEM after a specified capacity of NEM projects have been established. (Public Utilities Code Section 2827)

7) Requires the CPUC to develop a new NEM program by July 2015, and establish a transition to the new NEM program by 2017. The new NEM program is to be based on electrical system costs

and benefits to nonparticipating ratepayers, and removes both

the total system capacity cap and the 1 Megawatt project size limit. Existing NEM customers will be transitioned for a length of time to be determined by the CPUC by March 2014. (Public Utilities Code Section 2827.1)

8) Creates the California Solar Initiative (CSI) with a goal to install solar energy systems with a generation capacity of 3,000 megawatts (MWs), to make solar energy systems a viable mainstream option for both homes and businesses in 10 years, and to place solar energy systems on 50 percent of new homes in 13 years. Specifies no less than 10 percent of the overall CSI funding is to be directed toward programs assisting low-income households in obtaining the benefits of solar technology. (Public Utilities Code Section 2852)

9) Permits the CPUC to adopt decisions that established the Single-Family Affordable Solar Homes Program (SASH) and the Multifamily Affordable Solar Housing Program (MASH), which provide monetary incentives for the installation of solar energy systems on low-income residential housing. (Public Utilities Code Section 2852)

10) Extends the SASH and MASH programs until December 31, 2021, or until budgeted funds are exhausted, whichever occurs sooner. (Public Utilities Code Section 2851)

11) Establishes the Energy Efficiency Low-Income Weatherization Program in the Department of Community Services and Development (CSD) from the appropriation of GHG emissions reductions allowances from non-utility funds. The program provides for weatherization and renewable energy installations in disadvantaged communities defined by the California Environmental Protection Agency. (Government Code Section 12087.5)

FISCAL EFFECT: According to Senate Appropriations:

1) Ongoing costs of $558,000 from the Public Utilities Reimbursement Account (special fund) for CPUC to oversee the contract to administer the program and to annually assess the success of the program.

2) Cost pressures of up to $100 million annually (General Fund) to fund the program after 2020, if no additional cap-and-trade allocations are given to the electric utilities.

3) Unknown lost revenues to the state, as an electric ratepayer (General Fund and various special funds), for reduced credits from the sale of cap-and-trade auction revenues allocated to electrical corporations.

COMMENTS:

1) IOUs' GHG allowance allocation for clean energy and energy efficiency. With the passage of the Global Warming Solutions Act of 2006, the ARB implemented regulations to achieve the goal of reducing GHG emissions to 1990 levels by 2020. Under the GHG Cap-and-Trade Regulation, ARB allocates GHG emissions allowances to capped sectors, including electric IOUs. ARB requires IOUs to sell these allowances at ARB's quarterly allowance auctions, and requires that all proceeds be used for ratepayer benefit, subject to CPUC oversight.

In 2012, the Legislature adopted budget trailer language in SB 1018, which requires that revenues from the GHG allowances be credited back to residential, small business, and emissions-intensive trade-exposed businesses (businesses that

are most at risk for moving their activities out of California because they aren't able to pass the costs on.) SB 1018 also provided that up to 15% of the GHG funds could be allocated to fund clean energy and energy efficiency programs not otherwise funded by another funding source.

Roughly $1 billion in annual allowance revenues are distributed to residential customers as the California Climate Credit. Among the three largest IOUs in the state, the semi-annual climate credit is roughly $26 to $40 per ratepayer, depending on the utility. The CPUC has not allocated any of the "up to 15%" funds to clean energy and energy efficiency programs, and has instead ordered the IOUs to allocate these funds to customers in the California Climate Credits.

In 2015, the electric IOUs can seek CPUC approval to use a maximum of approximately $167 million in allowance proceeds for clean energy and energy efficiency projects not otherwise funded. The table below shows the maximum funds allocation available for 2015.

Electric IOU Allowance Proceeds Available for Clean Energy and Energy Efficiency Projects, 2015

Utility	Total Forecast of Allowance	Maximum Allocation for

| | Auction | Clean Energy or |

	Proceeds<1>	Energy Efficiency
Pacific Gas and Electric Company	$438,602,830	$65,790,425
Southern California Edison	$562,499,489	$84,374,923
San Diego Gas & Electric Company	$98,717,335	$14,807,600
PacifiCorp	$11,870,145	$1,780,522
Liberty Utilities (CalPeco Electric)	$4,078,910	$611,836
Total	$1,115,768,709	$167,365,306

There is one pending utility request to use allowance proceeds: SDG&E is requesting to pay for its proposed 22-year, $103 million electric vehicle charging pilot program (proceeding A.14-04-014) with allowance proceeds. This proceeding is still in progress.

2) Virtual Net Energy Metering (VNM). VNM is an arrangement of rates and terms that enables a multi-meter property owner to allocate a solar system's energy credits to other tenants. Historically, multi-tenant building with individual electric meters for each tenant faced difficulties installing

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<1>

Total forecast of allowance auction proceeds in 2015 includes allowance proceeds that will be received in 2015 inclusive of franchise fees and uncollectibles, and the remaining balance of allowance proceeds received in previous years (inclusive of interest) that has not yet been distributed.

distributed solar systems because of the problem of assigning the benefits of the generation to each occupant. A system could easily be connected to a common area load or to an individual tenant, but if it was connected directly to multiple loads, there would be no way of ensuring equitable distribution of the generation. Some tenants would benefit more than others. Installing multiple systems, one for each tenant or load in the building, is cost prohibitive. However, VNM allows a single solar system to cover the electricity load of both common and tenant areas connected at the same service delivery point. The electricity does not flow directly to any tenant meter, but rather it feeds directly back onto the grid. The participating utility then allocates the kilowatt hours from the energy produced by the solar photovoltaic generating system to both the building owner and tenants' individual utility accounts, based on a pre-arranged allocation agreement. The intent of VNM is to help multifamily residents receive direct benefits of the building's solar system, rather than all of the benefits going to the building owner.

3) Net Energy Metering 2.0. The NEM program supports onsite solar installations up to 1 MW designed to offset a portion, or all, of the customer's electric load. A 2013 report by the CPUC on the costs and benefits of the NEM program suggested that NEM generation resulted in a net cost to ratepayers. However, the report also noted that the costs of NEM are largely a function of retail rates designs. With the passage of AB 327 (Perea), Chapter 611, Statutes of 2013 the CPUC is reforming the design of residential electricity rates charged by utilities, as well as a new proceeding to reform the NEM program with the intent to better level the playing field between participants and non-participants. By encouraging the installation of renewable energy technologies and therefore increasing the number of customers enrolled in NEM, AB 693 has the potential to impact non-participant ratepayers.

4) Overlap with other programs. There are existing programs that

provide solar and weatherization services to low-income residents:

a) The Low-Income Weatherization and Solar Program. This program is administered by the CSD. Funding is provided from the state's Greenhouse Gas Reductions Fund (GGRF) and provides $75 million for energy efficiency and renewable energy projects for low-income residents in disadvantaged communities (2014 to 2015). CSD has allocated $8.8 million to be spent on multifamily photovoltaic projects located in disadvantaged communities.

b) California Solar Initiative (CSI). This program allocated $3 billion to be collected from ratepayers to fund incentives for photovoltaic installations on residential and commercial premises. Funds from this program were allocated to low-income households, both single family and multifamily. These program are known as SASH and MASH. Additional ratepayer funds were allocated to the low-income program as a result of legislation. (AB 217 (Bradford), Chapter 609, Statutes of 2013)

This bill proposes to use many of the elements, including utilizing net metering to provide tenants with financial incentives on their utilities bills. The current MASH program provides rebates for individual metered properties where each rental property has its own meter and for master-metered, such as mobile home parks. This bill would provide incentives for properties with individual meters.

5) Direct economic benefit? This bill provides that the CPUC shall "ensure that electrical corporation tariff structures affecting the low-income tenants participating in the program

continue to provide a direct economic benefit from the qualifying solar energy system." In many cases, photovoltaic systems are owned by third party investment arrangements known as Power Purchase Agreement or solar leases. In some of these arrangements the value of net metering is monetized as part of the contract terms between the property owner and the third party financier. If the CPUC is to ensure that the tariff structures continue to provide a direct economic benefit, then the CPUC must also consider the terms and conditions in any financing arrangement as any direct economic benefit is potentially the result of the combination of the tariff and the financing arrangement. While the CPUC has regulatory authority over the tariff structure of the utility, it may not have similar authority over the financiers. The CPUC may need to establish terms and conditions for financing in its eligibility criteria in order to ensure that the net effect of the tariff structure and the financing arrangement provides a direct economic benefit.

Analysis Prepared by: Sue Kateley / U. & C. / (916) 319-2083
FN: 0002387